

**United States Department of Agriculture
Forest Service**

Aviation Safety Alert

No. 2002-09

May 1, 2001

Page 1 of 1

Subject: Uncontrolled airport procedures

Area of Concern: Aviation Operations

DISCUSSION: On June 25, 1996 the NTSB determined that one of the probable causes of a mid air collision between two aircraft at an uncontrolled airport was “inadequate procedures.” Recently, a Safecom (#01-80) identified a similar incident at an uncontrolled airport that could easily have resulted in multiple fatalities.

It is imperative that Forest Service pilots and pilots on contract to the Forest Service be thoroughly familiar with the content and comply with the intentions of FAA advisory circulars AC 90-42F (traffic advisory practices at airports without operating control towers) and AC-90-66A (recommended standard traffic patterns and practices for aeronautical operations at airports without operational control towers).

These circulars are attached to this Safety Alert and available online at www.faa.gov/avr/afs/acs/90-42f.txt and www.faa.gov/avr/afs/acs/90-66a.txt.

Please ensure this information is made available to all Forest Service and Forest Service contractor pilots as soon as possible.

Morgan H. Mills
Acting, National Aviation Safety and Training Manager

Attachments:
AC 90-42F
AC 90-66A

ADVISORY CIRCULAR AC No: 90-42F

Date: 5/21/90

Change:

Initiated by: ATP-230

Subject: TRAFFIC ADVISORY PRACTICES AT AIRPORTS WITHOUT
OPERATING CONTROL TOWERS

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1. **PURPOSE.** This advisory circular (AC) contains good operating practices and procedures for use when approaching or departing airports without an operating control tower and airports that have control towers operating part time. This AC has been updated to include changes in radio frequencies and phraseology.
 2. **CANCELLATION.** Advisory Circular 90-42E, dated November 23, 1988, is cancelled.
 3. **REFERENCES.** The following AC's also contain information applicable to operations at such uncontrolled airports.
 - a. AC 90-66, Recommended Standard Traffic Patterns for Aircraft Operations at Airports Without Operating Control Towers.
 - b. AC 150/5340-27A, Air-to-Ground Radio Control of Airport Lighting Systems.
 4. **DEFINITIONS.**
 - a. **COMMON TRAFFIC ADVISORY FREQUENCY (CTAF)** - A designated frequency for the purpose of carrying out airport advisory practices while operating to or from an airport that does not have a control tower or an airport where the control tower is not operational. The CTAF is normally a UNICOM, MULTICOM, flight service station (FSS) frequency, or a tower frequency. CTAF will be identified in appropriate aeronautical publications.
 - b. **UNICOM** - A nongovernment air/ground radio communication station which may provide airport information at public use airports.
 - c. **MULTICOM** - A mobile service, not open to public correspondence use, used for essential communications in the conduct of activities performed by or directed from private aircraft.
 - d. **MOVEMENT AREA** - The runways, taxiways, and other areas of an airport/heliport which are utilized for taxiing/hover taxiing, air taxiing, takeoff and landing of aircraft, exclusive of loading ramps, and parking areas.
 5. **DISCUSSION.**
 - a. In the interest of promoting safety, the Federal Aviation Administration, through its Airman's Information Manual, Airport Facility Directory, Advisory Circular, and other publications provides frequency information, good operating practices, and procedures for pilots to use when operating to and from an airport without an operating control tower.

- b. There is no substitute for awareness while in the vicinity of an airport. It is essential that pilots remain alert and look for other traffic and exchange traffic information when approaching or departing an airport without the services of an operating control tower. This is of particular importance since other aircraft may not have communication capability or, in some cases, pilots may not communicate their presence or intentions when operating into or out of such airports. To achieve the greatest degree of safety, it is essential that all radio-equipped aircraft transmit/receive on a common frequency identified for the purpose of airport advisories.
- c. The key to communicating at an airport without an operating control tower is selection of the correct common frequency. The CTAF for each airport without an operating control tower is published in appropriate aeronautical information publications. The CTAF for a particular airport can also be obtained by contacting any FSS. Use of the appropriate CTAF, combined with visual alertness and application of the following recommended good operating practices, will enhance safety of flight into and out of all such airports.
- d. There are two ways for pilots to communicate their intentions and obtain airport/traffic information when operating at an airport that does not have an operating tower: by communicating with an FSS that is providing airport advisories on a CTAF or by making a self-announced broadcast on the CTAF.

6. RECOMMENDED TRAFFIC ADVISORY PRACTICES.

All inbound traffic should continuously monitor and communicate, as appropriate, on the designated CTAF from a point 10 miles from the airport until clear of the movement area. Departing aircraft should continuously monitor/communicate on the appropriate frequency from startup, during taxi, and until 10 miles from the airport unless the Federal Aviation Regulations or local procedures require otherwise.

7. AIRPORT ADVISORY SERVICE (AAS) PROVIDED BY AN FSS.

- a. An FSS physically located on an airport may provide airport advisory service (AAS) at an airport that does not have a control tower or where a tower is operated on a part-time basis and the tower is not in operation. The CTAF's for FSS's which provide this service are published in appropriate aeronautical publications.
- b. An FSS AAS provides pilots with wind direction and velocity, favored or designated runway, altimeter setting, known traffic, Notices to Airmen, airport taxi routes, airport traffic pattern, and instrument approach procedures information. Pilots may receive some or all of these elements depending on the current traffic situation. Some airport managers have specified that under certain wind or other conditions, designated runways are used. Therefore, pilots should advise the FSS of the runway they intend to use. It is important to note that not all aircraft in the vicinity of an airport may be in communication with the FSS.
- c. In communicating with an FSS on CTAF, establish two-way communications before transmitting outbound/inbound intentions or information. Inbound aircraft should initiate contact approximately 10 miles from the airport. Inbounds should report altitude, aircraft type, and location relative to the airport; should indicate whether landing or overflight; and should request airport advisory. Departing aircraft should, as soon as

practicable after departure, contact the FSS and state the aircraft type, full identification number, type of flight planned; i.e., visual flight rules (VFR) or instrument flight rules (IFR), the planned destination or direction of flight, and the requested services desired. Pilots should report before taxiing, before entering the movement area, and before taxiing onto the runway for departure. If communication with a UNICOM is necessary, pilots should do so before entering the movement area or on a separate transceiver. It is essential that aircraft continuously monitor the CTAF within the specified area.

d. Examples of AAS phraseology:

(1) Inbound:

VERO BEACH RADIO, CENTURION SIX NINER DELTA DELTA ONE ZERO MILES SOUTH, TWO THOUSAND, LANDING VERO BEACH. REQUEST AIRPORT ADVISORY.

(2) Outbound:

VERO BEACH RADIO, CENTURION SIX NINER DELTA DELTA, READY TO TAXI, VFR, DEPARTING TO THE SOUTHWEST. REQUEST AIRPORT ADVISORY.

8. INFORMATION PROVIDED BY AERONAUTICAL ADVISORY STATIONS

(UNICOM). UNICOM stations may provide pilots, upon request, with weather information, wind direction, the recommended runway, or other necessary information. If the UNICOM frequency is designated as the CTAF, it will be identified in appropriate aeronautical publications. If wind and weather information are not available, it may be obtainable from nearby airports via Automatic Terminal Information Service or Automated Weather Observing System frequency.

9. SELF-ANNOUNCE POSITION AND/OR INTENTIONS.

- a. General. "Self-announce" is a procedure whereby pilots broadcast their position, intended flight activity or ground operation on the designated CTAF. This procedure is used primarily at airports which do not have a control tower or an FSS on the airport. The self-announce procedure should also be used when a pilot is unable to communicate with the local FSS on the designated CTAF.
- b. If an airport has a control tower which is either temporarily closed or operated on a part-time basis and there is no operating FSS on the airport, pilots should use the published CTAF to self-announce position and/or intentions.
- c. Where there is no tower, FSS, or UNICOM station on the airport, use MULTICOM frequency 122.9 for self-announce procedures. Such airports will be identified in appropriate aeronautical information publications.
- d. Practice Approaches. Pilots conducting practice instrument approaches should be particularly alert for other aircraft that may be departing in the opposite direction. When conducting any practice approach, regardless of its direction relative to other airport operations, pilots should make announcements on the CTAF as follows:

- (1) when departing the final approach fix, inbound;

- (2) when established on the final approach segment or immediately upon being released by ATC;
- (3) upon completion or termination of the approach; and
- (4) upon executing the missed approach procedure.

NOTE: Departing aircraft should always be alert for arrival aircraft that are opposite direction.

10. UNICOM COMMUNICATION PROCEDURES.

- a. In communicating with a UNICOM station, the following practices will help reduce frequency congestion, facilitate a better understanding of pilot intentions, help identify the location of aircraft in the traffic pattern, and enhance safety of flight:

- (1) Select the correct CTAF frequency.
- (2) State the identification of the UNICOM station you are calling in each transmission.
- (3) Speak slowly and distinctly.
- (4) Notify the UNICOM station approximately 10 miles from the airport, reporting altitude, aircraft type, aircraft identification, location relative to the airport, and whether landing or overflight. Request wind information and runway in use.
- (5) Report on downwind, base, and final approach.
- (6) Report leaving the runway.

- b. Examples of UNICOM Phraseologies:

- (1) Inbound:

FREDERICK UNICOM CESSNA EIGHT ZERO ONE TANGO FOXTROT 10 MILES SOUTHEAST DESCENDING THROUGH (ALTITUDE) LANDING FREDERICK, REQUEST WIND AND RUNWAY INFORMATION FREDERICK.

FREDERICK TRAFFIC CESSNA EIGHT ZERO ONE TANGO FOXTROT ENTERING DOWNWIND/BASE/FINAL (AS APPROPRIATE) FOR RUNWAY ONE NINE (FULL STOP/TOUCH-AND-GO) FREDERICK.

*FREDERICK TRAFFIC CESSNA EIGHT ZERO ONE TANGO FOXTROT CLEAR OF RUNWAY ONE NINE FREDERICK. *

- (2) Outbound:

FREDERICK UNICOM CESSNA EIGHT ZERO ONE TANGO FOXTROT (LOCATION ON AIRPORT) TAXIING TO RUNWAY ONE NINE, REQUEST WIND AND TRAFFIC INFORMATION FREDERICK.

FREDERICK TRAFFIC CESSNA EIGHT ZERO ONE TANGO FOXTROT DEPARTING RUNWAY ONE NINE. "REMAINING IN THE PATTERN" or "DEPARTING THE PATTERN TO THE (DIRECTION) (AS APPROPRIATE)" FREDERICK.

11. EXAMPLES OF SELF-ANNOUNCE PHRASEOLOGIES.

It should be noted that aircraft operating to or from another nearby airport may be making self-announce broadcasts on the same UNICOM or MULTICOM frequency. To help identify one airport from another, the airport name should be spoken at the beginning and end of each self-announce transmission.

(1) Inbound:

STRAWN TRAFFIC, APACHE TWO TWO FIVE ZULU, (POSITION), (ALTITUDE), (DESCENDING) OR ENTERING DOWNWIND/BASE/FINAL (AS APPROPRIATE) RUNWAY ONE SEVEN FULL STOP, TOUCH-AND-GO, STRAWN.

*STRAWN TRAFFIC APACHE TWO TWO FIVE ZULU CLEAR OF RUNWAY ONE SEVEN STRAWN. *

(2) Outbound:

STRAWN TRAFFIC, QUEENNAIRE SEVEN ONE FIVE FIVE BRAVO (LOCATION ON AIRPORT) TAXIING TO RUNWAY TWO SIX STRAWN.

STRAWN TRAFFIC, QUEENNAIRE SEVEN ONE FIVE FIVE BRAVO DEPARTING RUNWAY TWO SIX. DEPARTING THE PATTERN TO THE (DIRECTION), CLIMBING TO (ALTITUDE) STRAWN.

(3) Practice Instrument Approach:

STRAWN TRAFFIC, CESSNA TWO ONE FOUR THREE QUEBEC (NAME - FINAL APPROACH FIX) INBOUND DESCENDING THROUGH (ALTITUDE) PRACTICE (TYPE) APPROACH RUNWAY THREE FIVE STRAWN.

STRAWN TRAFFIC, CESSNA TWO ONE FOUR THREE QUEBEC PRACTICE (TYPE) APPROACH COMPLETED OR TERMINATED RUNWAY THREE FIVE STRAWN.

12. SUMMARY OF RECOMMENDED COMMUNICATIONS PROCEDURES.

COMMUNICATION/BROADCAST PROCEDURES

FACILITY AT AIRPORT	FREQUENCY USE	OUTBOUND	INBOUND	PRACTICE INSTR APCH
a. UNICOM (no Tower or FSS)	Communicate with UNICOM station on published CTAF frequency (122.7, 122.8, 122.725, 122.975, or 123.0). If unable to contact UNICOM station, use self-announce procedures on CTAF.			
b. No Tower, FSS, or UNICOM	Self-announce on MULTICOM freq. 122.9	Before taxiing and before taxiing on the runway for departure	10 miles out, and entering downwind, base, and final, and leaving the runway.	Departing final approach fix (name) inbound, and approach completed/ terminated
c. No Tower Operation, FSS Open	Communicate with FSS on CTAF			
d. FSS Closed (No Tower)	Self-announced on CTAF			
e. Tower or, FSS not in Operation	Self-announced on CTAF			

13. IFR AIRCRAFT.

When operating in accordance with an IFR clearance, if air traffic control (ATC) approves a change to the advisory frequency, change to and monitor the CTAF as soon as possible and follow the recommended traffic advisory procedures.

14. GROUND VEHICLE OPERATION.

Drivers of airport ground vehicles equipped with radios should monitor the CTAF frequency when operating on the airport movement area and remain clear of runways/taxiways being used by aircraft. Radio transmissions from ground vehicles should be confined to safety-related matters.

15. RADIO CONTROL OF AIRPORT LIGHTING SYSTEMS.

Whenever possible, the CTAF will be used to control airport lighting systems at airports without operating control towers. This eliminates the need for pilots to change frequencies to turn the lights on and allows a continuous listening watch on a single frequency. The CTAF is published on the instrument approach chart and in other appropriate aeronautical information publications. For further details concerning radio controlled lights, see AC 150/5340-27.

16. DESIGNATED UNICOM/MULTICOM FREQUENCIES. The following listing depicts appropriate UNICOM and MULTICOM frequency used as designated by the Federal Communications Commission (FCC).

Frequency	Use
122.700 -----	Airports without an operating control tower
122.725 -----	Airports without an operating control tower
* 122.750 -----	Air-to-air communications & private airports (not open to the public) *
122.800 -----	Airports without an operating control tower
* 122.900 -----	(MULTICOM FREQUENCY) Activities of a temporary, seasonal, or emergency nature.
122.925 -----	(MULTICOM FREQUENCY) Forestry management and fire suppression, fish and game management and protection, and environmental monitoring and protection. *
122.950 -----	Airports with control tower or FSS on airport
122.975 -----	Airports without an operating control tower
123.000 -----	Airports without an operating control tower
123.050 -----	Airports without an operating control tower
123.075 -----	Airports without an operating control tower

NOTE 1:

In some areas of the country, frequency interference may be encountered from nearby airports using the same UNICOM frequency. Where there is a problem, UNICOM operators are encouraged to develop a "least interference" frequency assignment plan for airports concerned using the frequencies designated for airports without operating control towers.

UNICOM licensees are encouraged to apply for UNICOM 25 kHz spaced channel frequencies. Due to the extremely limited number of frequencies with 50 kHz channel spacing, 25 kHz channel spacing should be implemented. UNICOM licensees may then request FCC to assign frequencies in accordance with the plan, which FCC will review and consider for approval.

NOTE 2:

Wind direction and runway information may not be available on UNICOM frequency 122.950.

17. USE OF UNICOM FOR ATC PURPOSES. UNICOM SERVICE MAY BE USED FOR ATC PURPOSES, only under the following circumstances:

- a. Revision to proposed departure time.
- b. Takeoff, arrival, or flight plan cancellation time.
- c. ATC clearance, provided arrangements are made between the ATC facility and the UNICOM licensee to handle such messages.

18. MISCELLANEOUS. Operations at airports without operating control towers require the highest degree of vigilance on the part of pilots to see and avoid aircraft while operating to or from such airports. Pilots should stay alert at all times, anticipate the unexpected, use the published CTAF frequency, and follow recommended airport advisory practices.

/s/ Harold W. Becker
Acting Director, Air Traffic
Rules and Procedures Service

RECOMMENDED STANDARD TRAFFIC PATTERNS AND PRACTICES FOR AERONAUTICAL OPERATIONS AT AIRPORTS WITHOUT OPERATING CONTROL TOWERS

Department of Transportation
Federal Aviation Administration

8/26/93

Initiated by: ATP-230

1. PURPOSE.

This advisory circular (AC) calls attention to regulatory requirements and recommended procedures for aeronautical operations at airports without operating control towers. It recommends traffic patterns and operational procedures for aircraft, lighter than air, glider, parachute, rotorcraft, and ultralight vehicle operations where such use is not in conflict with existing procedures in effect at those airports.

2. CANCELLATION.

AC 90-66, Recommended Standard Traffic Patterns for Airplane Operations at Uncontrolled Airports, dated February 27, 1975, is canceled.

3. PRINCIPAL CHANGES.

This AC has been updated to reflect current procedures at airports without operating control towers. Principal changes include: adding on "Other Traffic Pattern" section, amending appendix charts to remain consistent with the Airman's Information Manual (AIM), expanding the "Related Reading Material" section from "airplane" to "aeronautical" operations, adding definition and references to Common Traffic Advisory Frequency (CTAF), acknowledging straight-in approaches are not prohibited but may be operationally advantageous, and adding a paragraph on wake turbulence.

4. DEFINITIONS.

a. Airports Without Operating Control Towers. Airports without control towers or an airport with a control tower which is not operating. These airports are commonly referred to as nontowered, uncontrolled, or part time towered airports.

b. Common Traffic Advisory Frequency (CTAF). A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a UNICOM, MULTICOM, flight service station, or tower frequency and is identified in appropriate aeronautical publications.

5. RELATED READING MATERIAL.

- a. Airport/Facility Directory (AFD).
- b. Airman's Information Manual (AIM).
- c. Fly Neighborly Guide, Helicopter Association International.
- d. Aviation USA, Aircraft Owners and Pilots Association (AOPA).
- e. State aviation publications.
- f. Various pilot guides.
- g. Pilot Operations at Nontowered Airports, AOPA Air Safety Foundation pamphlet.
- h. Guidelines for the Operation of Ultralight Vehicles at Existing Airports, United States Ultralight Association.
- i. Facts for Pilots, United States Parachute Association.

j. The latest addition of the following ACs also contain information applicable to operations at airports without operating control towers:

- (1) AC 90-23, Aircraft Wake Turbulence.
- (2) AC 90-42, Traffic Advisory Practices at Airports Without Operating Control Towers.
- (3) AC 90-48, Pilot's Role in Collision Avoidance.
- (4) AC 91-32, Safety In and Around Helicopters.
- (5) AC 103-6, Ultralight Vehicle Operations - Airports, Air Traffic Control, and Weather.
- (6) AC 105-2, Sport Parachute Jumping.

6. BACKGROUND AND SCOPE.

- a. Regulatory provisions relating to traffic patterns are found in Parts 91, 93, and 97 of the Federal Aviation Regulations (FAR). The airport traffic patterns contained in Part 93 relate primarily to those airports where there is a need for unique traffic pattern procedures not provided for in Part 91. Part 97 addresses instrument approach procedures. At airports without operating control towers, Part 91 requires only that pilots of airplanes approaching to land make all turns to the left unless light signals or visual markings indicate that turns should be made to the right.
- b. The Federal Aviation Administration (FAA) believes that observance of a standard traffic pattern and the use of CTAF procedures as detailed in AC 90-42 will improve the safety and efficiency of aeronautical operations at airports without operating control towers.

7. GENERAL OPERATING PRACTICES.

- a. Use of standard traffic patterns for all aircraft and CTAF procedures by radio equipped aircraft are recommended at all airports without operating control towers. However, it is recognized that other traffic patterns may already be in common use at some airports or that special circumstances or conditions exist that may prevent use of the standard traffic pattern.
- b. The use of any traffic pattern procedure does not alter the responsibility of each pilot to see and avoid other aircraft. Pilots are encouraged to participate in "Operation Lights On," which is a voluntary pilot safety program described in the AIM designed to enhance the "see and avoid" requirement.
- c. As part of the preflight familiarization with all available information concerning a flight, each pilot should review all appropriate publications (AFD, AIM, Notices to Airmen (NOTAM), etc.), for pertinent information on current traffic patterns at the departure and arrival airports.
- d. It is recommended that pilots utilize visual indicators, such as the segmented circle, wind direction indicator, landing direction indicator, and traffic pattern indicators which provide traffic pattern information.
- e. The FAA encourages pilots to use the standard traffic pattern. However, for those pilots who choose to execute a straight-in approach, maneuvering for and execution of the approach should be completed so as not to disrupt the flow of arriving and departing traffic. Therefore, pilots operating in the traffic pattern should be alert at all times to aircraft executing straight-in approaches.
- f. Pilots who wish to conduct instrument approaches should be particularly alert for other aircraft in the pattern so as to avoid interrupting the flow of traffic. Position reports on the CTAF should include distance and direction from the airport, as well as the pilot's intentions upon completion of the approach.
- g. Pilots of inbound nonradio equipped aircraft should determine the runway in use prior to entering the traffic pattern by observing the landing direction indicator or by other means. Pilots should be aware that procedures at airports without operating control towers generally do not require the use of two-way radios; therefore, pilots should be especially vigilant for other aircraft while operating in the traffic pattern.

- h. Wake turbulence is generated by all aircraft. Therefore, pilots should expect to encounter turbulence while operating in a traffic pattern and in proximity to other aircraft. Aircraft components and equipment can be damaged by wake turbulence. In flight, avoid the area below and behind the aircraft generating turbulence especially at low altitude where even a momentary wake encounter can be hazardous. All operators should be aware of the potential adverse effects that their wake, rotor or propeller turbulence has on light aircraft and ultralight vehicles,

8. RECOMMENDED STANDARD TRAFFIC PATTERN.

Airport owners and operators, in coordination with the FAA, are responsible for establishing traffic patterns. However, the FAA encourages airport owners and operators to establish traffic patterns as recommended in this AC. Further, left traffic patterns should be established except where obstacles, terrain, and noise sensitive areas dictate otherwise. Appendix 1 contains diagrams for recommended standard traffic patterns.

- a. Prior to entering the traffic pattern at an airport without an operating control tower, aircraft should avoid the flow of traffic until established on the entry leg. For example, wind and landing direction indicators can be checked while at an altitude above the traffic pattern. When the proper traffic pattern direction has been determined, the pilot should then proceed to a point well clear of the pattern before descending to the pattern altitude.
- b. Arriving aircraft should be at the appropriate traffic pattern altitude before entering the traffic pattern. Entry to the downwind leg should be at a 45 degree angle abeam the midpoint of the runway.
- c. It is recommended that airplanes observe a 1000 foot above ground level (AGL) traffic pattern altitude. Large and turbine powered airplanes should enter the traffic pattern at an altitude of 1,500 feet AGL or 500 feet above the established pattern altitude. A pilot may vary the size of the traffic pattern depending on the aircraft's performance characteristics.
- d. The traffic pattern altitude should be maintained until the aircraft is at least abeam the approach end of the landing runway on the downwind leg.
- e. The base leg turn should commence when the aircraft is at a point approximately 45 degrees relative bearing from the runway threshold.
- f. Landing and takeoff should be accomplished on the operating runway most nearly aligned into the wind. However, if a secondary runway is used, pilots using the secondary runway should avoid the flow of traffic to the runway most nearly aligned into the wind.
- g. Airplanes on takeoff should continue straight ahead until beyond the departure end of the runway. Aircraft executing a go-around maneuver should continue straight ahead, beyond the departure end of the runway, with the pilot maintaining awareness of other traffic so as not to conflict with those established in the pattern. In cases where a go-around was caused by an aircraft on the runway, maneuvering parallel to the runway may be required to maintain visual contact with the conflicting aircraft.
- h. Airplanes remaining in the traffic pattern should not commence a turn to the crosswind leg until beyond the departure end of the runway and within 300 feet below traffic pattern altitude, with the pilot ensuring that the turn to downwind leg will be made at the traffic pattern altitude.
- i. When departing the traffic pattern, airplanes should continue straight out or exit with a 45 left turn (right turn for right traffic pattern) beyond the departure end of the runway after reaching pattern altitude. Pilots need to be aware of any traffic entering the traffic pattern prior to commencing a turn.
- j. Airplanes should not be operated in the traffic pattern at an indicated airspeed of more than 200 knots (230 mph).
- k. Throughout the traffic pattern, right of way rules apply as stated in FAR Part 91.113. Any aircraft in distress has the right of way over all other aircraft. In addition, when converging aircraft are of different categories, a balloon has the right of way over any other category of aircraft; a glider has the right of way over an airship, airplane, or rotorcraft; and an airship has the right of way over an airplane or rotorcraft.

9. OTHER TRAFFIC PATTERNS.

Airport operators routinely establish local procedures for the operation of gliders, parachutists, lighter than air aircraft, helicopters, and ultralight vehicles. Appendices 2 and 3 illustrate these operations as they relate to recommended standard traffic patterns.

a. Rotorcraft.

- (1) In the case of a helicopter approaching to land, the pilot must avoid the flow of fixed wing aircraft and land on a marked helipad or suitable clear area. Pilots should be aware that at some airports, the only suitable landing area is the runway.
- (2) All pilots should be aware that rotorcraft may fly slower and approach at steeper angles than airplanes. Air taxi is the preferred method for helicopter ground movements which enables the pilot to proceed at an optimum airspeed, minimize downwash effect, and conserve fuel. However, flight over aircraft, vehicles, and personnel should be avoided.
- (3) In the case of a gyrocopter approaching to land, the pilot should avoid the flow of fixed wing aircraft until turning final for the active runway.
- (4) A helicopter operating in the traffic pattern may fly a pattern similar to the airplane pattern at a lower altitude (500 AGL) and closer to the airport. This pattern may be on the opposite side of the runway with turns in the opposite direction if local policy permits.
- (5) Both classes of rotorcraft can be expected to practice power off landing (autorotation) which will involve a very steep angle of approach and high rate of descent (1,500 - 2,000 feet/minute).

b. Gliders.

- (1) A glider, including the tow aircraft during towing operations, has the right of way over powered aircraft.
- (2) If the same runway is used by both airplanes and gliders, the glider traffic pattern will be inside the pattern of engine driven aircraft. If a "Glider Operating Area" is established to one side of a powered aircraft runway, the glider pattern will normally be on the side of the airport closest to the "Glider Operating Area." This will allow gliders to fly the same direction traffic pattern as powered aircraft in one wind condition and necessitate a separate opposing direction traffic pattern in the opposite wind condition. (See examples in Appendix 2, Glider Operations).
- (3) Typically, glider traffic patterns have entry points (initial points) from 600 to 1,000 feet AGL.

c. Ultralight Vehicles.

- (1) In accordance with FAR Part 103, ultralight vehicles are required to yield the right of way to all aircraft.
- (2) Ultralight vehicles should fly the rectangular pattern as described in Appendix 2. Pattern altitude should be 500 feet below and inside the standard pattern altitude established for the airport. An ultralight pattern with its own dedicated landing area will typically have a lower traffic pattern parallel to the standard pattern with turns in the opposite direction.
- (3) All pilots should be aware that ultralights will fly significantly slower than airplanes. In addition, ultralights may also exhibit very steep takeoff and approach angles. Turns may be executed near the end of the runway in order to clear the area expediently.

d. Lighter Than Air Aircraft.

- (1) A balloon has the right of way over any other category of aircraft and does not follow a standard traffic pattern.
- (2) Due to limited maneuverability, airships do not normally fly a standard traffic pattern. However, if a standard traffic pattern is flown, it will be at an airspeed below most other aircraft.

e. Parachute Operations.

- (1) All activities are normally conducted under a NOTAM noting the location, altitudes, and time or duration of jump operations. The Airport/Facility Directory lists airports where permanent drop zones are located.

- (2) Jumpers normally exit the aircraft either above, or well upwind of, the airport and at altitudes well above traffic pattern altitude. Parachutes are normally deployed between 2,000 feet and 5,000 feet AGL and can be expected to be below 3,000 feet AGL within 2 miles of the airport.
- (3) Pilots of jump aircraft are required by Part 105 to establish two-way radio communications with the air traffic control facility or Flight Service Station which has jurisdiction over the affected airspace prior to jump operations for the purpose of receiving information in the aircraft about known air traffic in the vicinity. In addition, when jump aircraft are operating at or in the vicinity of an airport, pilots are also encouraged to provide advisory information on the CTAF, i.e., "Chambersburg traffic, jumpers away over Chambersburg."
- (4) When a drop zone has been established on an airport, parachutists are expected to land within the drop zone. At airports that have not established drop zones, parachutists should avoid landing on runways, taxiways, aprons, and their associated safety areas. Pilots and parachutists should both be aware of the limited flight performance of parachutes and take steps to avoid any potential conflicts between aircraft and parachute operations.
- (5) Appendix 3 diagrams operations conducted by parachutists.

/s/

Harold W. Becker
Acting Director, Air Traffic
Rules and Procedures Service

